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Observations of Occultations of Stars by the Moon, and Phenomena of Jupiter's Satellites, made at the Royal Observatory, Greenwich, in the year 1887.

(*Communicated by the Astronomer Royal.*)

Occultations of Stars by the Moon.

Day of Obs.		Phenomenon.		Telescope.	Power.	Moon's Limb.	Mean Solar Time of Observation. h m s	Observer.
1887, Jan.	5	Disapp.	*f* Tauri	Lassell Refl.	170	Dark	5 21 20·15	H. T
	5	,,	*f* Tauri	Altaz	100	,,	5 21 19·88	T.
	5	,,	*f* Tauri	N. Eq.	80	,,	5 21 20·22	C.
	5	Reapp.	*f* Tauri	N. Eq.	80	Bright	6 24 33·88	C.
	6	,,	θ^2 Tauri	Altaz.	100	,,	8 54 22·36	R. W.
	6	,,	θ^1 Tauri	Altaz.	100	,,	9 2 18·86	R. W.
	6 (*a*)	Disapp.	Aldebaran	E. Eq.	210	Dark	12 16 24·53	A. D.
	6 (*b*)	,,	Aldebaran	Altaz.	100	,,	12 24·19	R. W.
	12	Reapp.	45 Leonis	E. Eq.	140	,,	51 5·64	A. D.
	12	Disapp.	ρ Leonis	E. Eq.	140	Bright	11 29 41·02	A. D.
	12	Reapp.	ρ Leonis	E. Eq.	140	Dark	12 30 15 02	A. D.
	28	Disapp.	4 Ceti	E. Eq.	140	,,	7 15 40·91	A. D.
	28	,,	4 Ceti	Altaz.	100	,,	7 15 40·79	S. D.
	28	,,	5 Ceti	E. Eq.	140	,,	7 42 3·78	A. D.
	28	,,	5 Ceti	Altaz.	100	,,	7 42 4·38	S. D.
Feb.	2 (*c*)	,,	48 Tauri	E. Eq.	60	,,	13 14 16·33	L.
	6	,,	3 Cancri	Altaz.	100	,,	9 17 15·72	H. T.
	6	,,	3 Cancri	E. Eq.	210	,,	9 17 14 89	L

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Day of Obs.		Phenomenon.		Telescope.	Power.	Moon's Limb.	Mean Solar Time of Observation. h m s	Observer.
1887, Mar.	2	Disapp.	Aldebaran	E. Eq.	70	Dark	5 46 56·97	H. T.
	2 (*d*)	,,	Aldebaran	Altaz.	100	,,	5 46 56·75	T.
	2	,,	Aldebaran	Detached Tel. No. 2	65	,,	5 46 56·97	L.
	2 (*e*)	Reapp.	Aldebaran	Lassell finder	30	Bright	6 3 19 76	H. T.
	2 (*f*)	,,	Aldebaran	Altaz.	100	,,	6 3 19·63	T.
	2 (*g*)	,,	Aldebaran	E. Eq.	70	,,	6 3 18·09	L.
	13	,,	γ Libræ	E. Eq.	70	Dark	17 9 45·29	H. T.
	29 (*h*)	Disapp.	θ^1 Tauri	E. Eq.	140	,,	9 16 52·42	T.
	29 (*i*)	,,	θ^2 Tauri	E. Eq.	140	,,	9 25 33·49	T.
Apr.	7 (*k*)	,,	46 Virginis	E. Eq.	140	,,	9 22 24·16	L.
	14 (*l*)	Reapp.	57 Sagittarii	Altaz.	100	,,	16 9 29·40	A. D.
	30	Disapp	54 Cancri	E. Eq.	140	,,	9 35 44 48	H.
	30	,,	o^1 Cancri	E. Eq.	140	,,	12 24 39·84	H.
July	1 (*m*)	,,	η Libræ	E. Eq.	210	,,	9 23 5·00	C.
	1 (*n*)	,,	η Libræ	Altaz.	100	,,	9 23 4·65	L.
Aug.	8	Reapp.	29 Ceti	Altaz.	100	,,	16 5 8·16	L.
	31	Disapp.	45 Capricorni	Altaz.	100	,,	12 14 34·94	A. D.
Sept.	28	,,	42 Aquarii	E. Eq.	210	,,	10 13 9·18	A. D.
Oct.	12	,,	Regulus	E. Eq.	210	Bright	16 44 16·61	H. T.
	12 (*o*)	,,	Regulus	Altaz.	100	,,	16 44 16·66	L.
	12 (*p*)	Reapp.	Regulus	E. Eq.	210	Dark	17 50 38·99	H. T.
	12	,,	Regulus	Altaz.	100	,,	17 50 36·65	L.

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Day of Obs.	Phenomenon.		Telescope.	Power.	Moon's Limb.	Mean Solar Time of Observation. h m s	Observer.
1887, Oct. 26	Disapp.	70 Aquarii	E. Eq.	210	Dark	7 49 48·82	C.
28	,,	Piazzi 0-60	Altaz.	100	,,	11 31 35·43	H. T.
28	,,	Piazzi 0-60	E. Eq.	210	,,	11 31 35 82	C.
31 (*q*)	,,	μ Ceti	Cooke Eq.	210	Bright	14 33 7 89	L.
31 (*r*)	,,	μ Ceti	Altaz.	100	,,	14 32 55·76	H.
Nov. 6 (*s*)	Reapp.	*g* Geminorum	Altaz.	100	Dark	10 52 14·09	T.
Dec. 27	Disapp.	75 Tauri	Altaz.	100	,,	6 26 32·34	B.

Notes.

(*a*) (*b*) Disappearance instantaneous.

(*c*) Observation not considered satisfactory; the counting of the clock-beats interfered with by noise.

(*d*) Sky very foggy. Disappearance instantaneous.

(*e*) No low-power eyepiece for the large telescope could be found, and as there was barely time for the accurate setting in position-angle required for a high power, the reappearance was observed in the finder, a small reflecting telescope of 4·4 inch aperture The reappearance did not seem to be instantaneous. Star appeared bright as compared with the surface of the Moon. Seemed to cling to the limb, and be divided by a projection on the limb, the northern portion of the star being fainter.

(*f*) Star appeared to run along the Moon's limb.

(*g*) Star appeared to run along the Moon's limb for about 19^s; for 5^s it had the appearance of shining from behind some obstacle, which seemed to split the image of the star into two. It did not appear to be quite clear of the Moon's limb till 32^s after the reappearance.

(*h*) Star appeared very faint before the disappearance. (*i*) Star appeared very faint indeed before the disappearance.

(*k*) Slight haze round the Moon. The star appeared to be almost in contact with the rugged bright edge of the Moon at the disappearance.

(*l*) Star very faint when first seen. (*m*) Cloudy, but observation considered satisfactory. (*n*) Star faint; cloudy.

(*o*) Star appeared in contact with the Moon's limb 3^s before the actual disappearance.

(*p*) The star reappeared nearer to the edge of the field than was expected, and seems from L.'s observation (with which it was compared 1^m afterwards) not to have been seen at the first moment of reappearance.

(*q*) The star seemed to come in contact with a prominence on the Moon's limb, and slide down the incline about 3^s before the actual disappearance.

(*r*) Moon very bright; difficult to see the star just before its disappearance behind a roughness on the limb.

(*s*) Star very faint; sky thick.

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Phenomena of Jupiter's Satellites.

Day of Obs.	Satellite.	Phenomenon.	Telescope.	Power.	Mean Solar Time of Observation.	Mean Solar Time of N.A.	Observer.
					h m s	h m s	
1887, April 3	II.	Ecl. D. Began to fade	E. Eq.	210	10 51 13	10 54 12	A. D.
3	II.	Last seen	,,	,,	10 53 48		,,
8 (*a*)	III.	Occ. R. Bisection	,,	,,	11 37 30	11 41	H. T.
8	III.	Last contact	,,	,,	11 40 30		,,
14	I.	Occ. R. First seen	,,	,,	10 9 58		F.
14	I.	Bisection	,,	,,	10 13 13	10 15	,,
14	I.	Last contact	,,	,,	10 16 45		,,
19	II.	Tr. Ing. First contact	,,	,,	11 2 46	11 6	L.
19	II.	Last contact	,,	,,	11 8 30		,,
20 (*b*)	I.	Tr. Ing. First contact	,,	140	12 27 53		T.
20	I.	Bisection	,,	,,	12 30 22	12 30	,,
20	I.	Last contact	,,	,,	12 33 52		,,
May 5 (*c*)	II.	Occ. D. First contact	,,	,,	9 47 42		A. D.
5	II.	Bisection	,,	,,	9 50 21	9 55	,,
5	II.	Last contact	,,	,,	9 54 6		,,

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